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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DAVIS, DAVID DONALD

ART UNIT

PAPER NUMBER

2652

DATE MAILED: 05/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/753,109

Applicant(s)

REDMOND ET AL.

Examiner

David D. Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-14, 28-30, 44, 46-53, 55-75, 77-88, 95 and 99 is/are pending in the application.
- 4a) Of the above claim(s) 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-13, 28-30, 44, 46-53, 55-75, 77-88, 95 and 99 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. Receipt is acknowledged of the Information Disclosure Statement (IDS) received July 18, 2001, which has been considered.

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Election/Restrictions

3. Newly amended claim 14 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Originally presented claim 14 was directed to a process of using the product and was examined along with the product claims. However, newly amended claim 14 is now directed to a method of making, and the method of making, stamping and/or molding the medium, can be made by a materially different method such as laminating the medium instead of stamping or molding. Since the product claims are not allowable, restriction is proper between the method of making, amended claim 14, and the process of using, originally presented claim 14.

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Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 14 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

4. This application contains claims 14 drawn to an invention nonelected. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Specification

5. The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

6. The attempt to incorporate subject matter into this application by reference to US 4,960,680 and 5,271,978 is improper because it has not been stated that the essential subject matter is incorporated by reference.

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7. Claims 44, 46-53, 75 and 77 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, claim 44 recites a “said objective end being spaced from said disk a distance of at least about 50 micrometers”. This limitation was described in the specification in such a way as to enable a skilled artisan to make and/or use an objective end being spaced from a disk a distance of *at least about* 50 micrometers, which includes every distance between 50 and infinity. Similar, lack of enablement exists with respect to mass in claim 49; drive dimensions in claims 50-53 and 95 and moment inertia in claims 75 and 77.

8. The amendment filed March 14, 2202 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: “a recording layer which changes from an amorphous phase to a crystalline phase upon exposure to thermal energy, the reflectivity of the material in the crystalline phase being greater than the reflectivity of the material in the amorphous phase”, as stated in the paragraph beginning at page 13, line 26.

Applicant is required to cancel the new matter in the reply to this Office Action.

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Claim Rejections - 35 USC § 112

9. Claims 11 and 28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the antepenultimate line through the ultimate line of marked-up amended claim 11 the following is recited: "said laser light causing said recording layer to change from an amorphous phase to a crystalline phase at said medium positions." This was not described in the specification in at the time the application was filed.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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11. Claims 44, 46-53 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Hajjar et al (US 5,963,532). See column 1, lines 60-65 and column 4, lines 38-43.

12. Claims 55-67 and 71-74 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Jewell et al (US 5,808,986). See figure 11.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 11-13, 28-30 and 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berg (US 5,132,944) in view of Pan et al (US 4,960,680). Berg shows in figure 2 user-

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removable cartridge 30 having an optical first-surface recording medium 36 for rotation about a first axis configured to provide optical access to at least a first arcuate region of the medium.

Figure 4 of Berg shows rotating optical arm 71 about a second axis to position and objective end and providing laser light along arm 71. Figures 2 and 3 show positioning cartridge 30 adjacent an optical arm. Figure 5 of Berg also shows tracking actuator 206.

Berg, however, is silent as to the medium containing a recording layer including material that changes from an amorphous phase to a crystalline phase when exposed to thermal energy.

Pan et al discloses, for example, in column 6, lines 29 through column 7, line 16 a medium containing a recording layer including material that changes from an amorphous phase to a crystalline phase when exposed to thermal energy.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the medium of Berg with a recording layer including material that changes from an amorphous phase to a crystalline phase when exposed to thermal energy as taught by Pan et al. The rationale is as follows: one of ordinary skill in the art at the time the invention was made would have been motivated to provide a medium with a recording layer including material that changes from an amorphous phase to a crystalline phase when exposed to thermal energy so that "thin films can be written upon using practical laser powers and writing speeds". See column 7, line 11-16 of Pan et al.

16. Claims 68-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jewell et al (US 5,808,986) in view of Berg (US 5,132,944). Figure 11 of Jewell et al shows a vertical

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cavity surface emitting laser and a detector providing a data signal; a focus error signal and a tracking error signal.

Berg shows in figure 3 a disc in cartridge.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the disc of Jewell in a cartridge as taught by Berg. The rationale is as follows: one of ordinary skill in the art at the time the invention was made would have been motivated to provide a disc in a cartridge to protect the disc from damage.

17. Claims 44, 46-53, 75-88 and 95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berg (US 5,132,944). Berg shows in figure 2 user-removable cartridge 30 having an optical first-surface recording medium 36 for rotation about a first axis configured to provide optical access to at least a first arcuate region of the medium.

Figure 4 of Berg shows rotating optical arm 71 about a second axis to position and objective end and providing laser light along arm 71. Figures 2 and 3 show positioning cartridge 30 adjacent an optical arm. Figure 5 of Berg also shows tracking actuator 206.

Berg, however, is silent as to a universal serial bus (USB) for communicating data between the drive and host device. Berg is also silent as to the moment of inertia (e.g. 5 gm-cm^2 or less) of the arm, the mass and size of the drive (e.g. 0.05 kg or less, 10 mm thick, 60 mm wide and 50 mm deep). Berg is additionally silent as to the focus actuator being a "piezo-motor".

Official notice is taken of the fact that USBs are notoriously old and well known in the disk drive art. Official notice is taken of the fact that piezoelectric motors are notoriously old and well known in the disk drive art.

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It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the drive of Berg with a USB connection as taught in the art. The rationale is as follows: one of ordinary skill in the art at the time the invention was made would have been motivated to provide a drive with a USB connection, which is considered to be well within the purview of a skilled artisan and absent an unobvious result, to communicate between the drive and a host device.

It also would have been obvious to a person having ordinary skill in the art at the time the invention was made to specify the moment of inertia (e.g. 5 gm-cm^2 or less) of the arm of Berg, the mass and size (e.g. 0.05 kg or less, 10 mm thick, 60 mm wide and 50 mm deep) of the drive of Berg. The rationale is as follows: one of ordinary skill in the art at the time the invention was made would have been motivated to specify the moment of inertia (e.g. 5 gm-cm^2 or less) of an optical arm, the mass and size of a drive (e.g. 0.05 kg or less, 10 mm thick, 60 mm wide and 50 mm deep), which is considered to be well within the purview of a skilled artisan and absent an unobvious result, so as to allow for optimization and manufacturing of the optical apparatus and reduction in size of the optical drive.

It additionally would have been obvious to a person having ordinary skill in the art at the time the invention was made to substitute the focusing actuator of Berg with a piezoelectric motor as taught in the art. The rationale is as follows: one of ordinary skill in the art at the time the invention was made would have been motivated to substitute a focusing actuator with a piezoelectric motor, which is considered to be art-recognized equivalents, well within the purview of a skilled artisan and absent an unobvious result, so as to reduce the amount of current need to drive the motor and reduce the overall size of the motor.

Response to Arguments

18. Applicant's arguments filed March 14, 2002 have been fully considered but they are not persuasive. Applicant asserts in the first paragraph on page 13 that "a person of skill in the art would known *how* to construct a drive in which the objective end is space from the disk *any* disk more than 50 micrometers". In claimed invention 44, the invention which applicant considers to be novel, unobvious and patentable, "said objective end being space from said disk a distance of at least about 50 micrometers" is recited. This recitation, which applicant considers to be novel, unobvious and patentable, is not described in the specification enable a skilled artisan. In other words, if applicant asserts that "a person of skill in the art would known *how* to construct" the device as recited in claim 44", then claim 44 would not be novel, unobvious or patentable. Therefore, since applicant purports on page 16 in lines 3-4 of the remarks that claim 44 is allowable. It is then considered that the claimed invention 44 is not enabled by specification.

In the fifth paragraph on page 14, applicant contends that Berg does not disclose that detection for changes in intensity of reflected light from medium. It is unclear how Berg could not detect light intensity since that is how optical disks in the art, including the one disclosed by Berg operate. If there was no light detection there would be no means to reproduce information from a disk because there would be no mean to determine the state of the bit recording on the disk.

In the sixth paragraph on page 14, applicant maintains that it is unobvious to fabricate an optics arm having "a moment of inertia of less than or equal to about 5 gm-cm²". Applicant supports this statement by provide a declaration stating the following on page 2, section 4(a):

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“An optics arm containing these elements would **typically** having a relatively large mass and a corresponding moment of inertia far greater than 5 gm-cm²” (emphasis added). First of all in a separate but related issue, it is curious that applicant in the remarks took the liberty of commenting only on the 112 first rejection with respect to claim 44, and not claim 76, whose limitations are now in claim 75. This is curious because if were in fact typical to have a relatively large mass and a corresponding moment of inertia far greater than 5 gm-cm² then the specification would have supported and applicant would have asserted that the specification enabled a skilled artisan to have the opposite, which is the claimed corresponding moment of inertia less than 5 gm-cm². Nonetheless, applicant has only stated in the declaration that which is typical and has not provide reasons as to why a moment of inertia less than 5 gm-cm² is not known in the art.

In the first paragraph on page 85 applicant assert that Berg does not teach “wherein said moving is performed while maintaining at least **said laser source and said objective in a fixed spatial relationship within respect to one another.**” Emphasis added. Applicant than states, “Berg teaches that ‘[l]ens support 168 and objective lens 170 are thereby *driven . . . and positioned . . .*’ Berg does teach “said laser source and said objective in a fixed spatial relationship within respect to one another”, contrary to applicant’s assertion. The laser and the lens are driven and positioned **together**. They are fixed “*with respect to one another*”, as required by the claims.

Conclusion

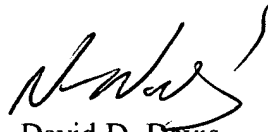
19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Davis whose telephone number is (703) 308-1503. The examiner can normally be reached on Mon., Tues., Thurs. and Fri. between 7:30-6:00. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900. Any other inquiry should be directed to the customer service center whose telephone number is (703) 306-0377.



David D. Davis
Primary Examiner
Art Unit 2652

ddd
May 20, 2002